

REMARKS

35 U.S.C. 102 rejections

Claims 11 and 13-14 stand rejected under 35 U.S.C. 102(e) as being anticipated by Ogusu (2005/0169641). The Applicant respectfully disagrees.

As a preliminary remark, the Applicant notes that published U.S. patent application No. 2005/0169641 to Ogusu was filed on March 18, 2005, well after the filing date of April 10, 2001 of the present application. Published U.S. patent application No. 2005/0169641 to Ogusu is a divisional of U.S. 10/724,055 to Ogusu, filed on December 1, 2003, which is itself a divisional of U.S. 9/511,095 to Ogusu, filed on February 23, 2000. The Applicant has not compared the contents of U.S. 2005/0169641 to Ogusu, U.S. 10/724,055 to Ogusu and U.S. 9/511,095 to Ogusu. However, the Applicant notes that any matter that would be recited in U.S. 2005/0169641 or U.S. 10/724,055 and not in U.S. 9/511,095 would not be opposable to the present application.

Accordingly, the Applicant has based the following comments on U.S. 9/511,095, which is hereafter referred to as 'Ogusu'.

Claim 11.

The Examiner opines that Ogusu shows in Fig. 3 a method as recited in claim 11, and in particular comprising:

“(a) tapping 40 the output from the laser to thereby define a tapped optical signal”; and

“(b) shifting the frequency (modulator 42 and as pointed out in Fig. 1 and para. 0016 of this instant application, the modulator 16 is used to shift the laser frequency) of the tapped optical signal to thereby define a shifted optical signal”.

The Applicant respectfully disagrees with the Examiner.

(a) The Applicant notes that Ogusu clearly defines (for example column 11, line 20) reference 40 as an “optical filter”. The Applicant notes that the Examiner has failed to explain how an “optical filter 40” would allow “tapping 40 the output from the laser to thereby define a tapped optical signal” as opined by the Examiner.

The Applicant notes that Ogusu does not seem to disclose or suggest that its optical filter can be operated to tap the output of the laser, contrary to the assertion of the Examiner. Further, the Applicant notes that the optical filter 40 of Ogusu has only one input and one output. The Applicant notes that a device for tapping an input is expected to have two outputs (as the optical branch circuit 45 of Ogusu), and respectfully submit that this also shows that Ogusu teaches away from operating the optical filter 40 to tap the output of the laser, contrary to the opinion of the Examiner.

The Applicant notes that Ogusu teaches tapping an optical input signal with optical branch circuit 45. However, the Applicant notes that optical branch circuit 45 is located downstream of external optical modulator 42, which is deemed by the Examiner to operate a frequency shift. Accordingly, even assuming, *arguendo*, that the external optical modulator 42 would operate as asserted by the Examiner, Ogusu would teach:

- first shifting the frequency of a signal; and then
- tapping the frequency-shifted signal.

However, claim 11 recites a method comprising first:

“(a) tapping the output from the distributed feedback laser to thereby define a tapped optical signal” and then

“(b) shifting the frequency of the tapped optical signal to thereby define a shifted optical signal”.

Claim 11 is therefore not anticipated by Ogusu.

The Applicant notes that the Examiner has failed to show that it would be obvious to modify Ogusu by locating the optical branch circuit 45 upstream of external optical modulator 42. The Applicant notes that the Examiner has failed to show that Ogusu would even operate properly with such modifications.

The Applicant respectfully submit that at least in view of the above, claim 11 is non-obvious and patentable over Ogusu.

(b) the Applicant notes that Ogusu clearly teaches (for example column 11, lines 23-24) that external optical modulator 42 is provided for “intensity modulating” the optical signals it receives.

On the other hand, the Applicant notes that the present application, and in particular paragraph [0016] of the specification, clearly teaches that the present modulator 16 relates to a “frequency-shifting modulator”.

The skilled reader knows well that intensity modulation involves modulating a signal by modifying the intensity of the signal, not its frequency, and differs fundamentally from frequency-shifting modulation, which involves modulating a signal by shifting the frequency of the signal.

The Applicant notes that the Examiner has failed to show that Ogusu discloses or suggests that external optical modulator 42 can be different from an intensity modulator. It follows that, even if optical filter 40 of Ogusu were tapping a signal, as opined by the Examiner, Ogusu would still fail to disclose or suggest a method as recited in claim 11, and in particular comprising “shifting the frequency of the tapped optical signal to thereby define a shifted optical signal”.

The Applicant respectfully submits that also in view of the above, claim 11 is patentable over Ogusu.

(c) Ogusu teaches, column 17, lines 17-21 that *"although the external optical modulator 25 is provided for intensity modulation, the present invention is not limited to this. There may be utilized any other modulation such as phase modulation, frequency modulation or the like for generating at least side bands on both sides"*. The Applicant notes that Ogusu discloses some arrangements having a modulator 25 for receiving a reference signal (from source 30) and teaches having distinct modulators 22 or 42 for receiving a digital data signal (see Figs 1-3). Ogusu specifically teaches that external optical modulator 25 can be modified to do frequency modulation. On the other hand, the modulators 22 and 42 are described as intensity modulators (col. 8, line 19; col. 11, line 24), and Ogusu does not disclose or suggest that the modulators 22 or 42 can be modified to operate in a different way, and in particular not to do frequency modulation. The Applicant notes that by singling out the optical modulator 25 and teaching that this specific modulator 25 can be used for frequency modulation, and letting the other modulators aside, Ogusu effectively teaches away from using the other modulators for frequency modulation. It follows that, even if optical filter 40 of Ogusu were tapping a signal, as opined by the Examiner, Ogusu would nevertheless teach away from a method as recited in claim 11, and in particular comprising *"shifting the frequency of the tapped optical signal to thereby define a shifted optical signal"*.

The Applicant respectfully submits that also in view of the above, claim 11 is patentable over Ogusu.

Claims 13 and 14

Claims 13 and 14 depend on claim 11. The Applicant respectfully submits that at least in view of their dependency on claim 11, claims 13-14 are patentable over Ogusu.

35 U.S.C. 103 rejections

Claim 12 stands rejected under 35 U.S.C. 103(a) as being unpatentable over Ogusu and further in view of Ih (U.S. 4,768,852). The Applicant respectfully disagrees with the Examiner.

The Applicant notes that the Examiner only cites Ih as teaching a SAW, and has failed to show that Ih discloses or suggests any of the other features recited in claim 11, and in particular “*shifting the frequency of the tapped optical signal to thereby define a shifted optical signal*”. The Applicant respectfully submits that in view of the above, the Examiner has failed to show that any combination of Ogusu and Ih would have led one skilled in the art to a method as recited in claim 1, and in particular comprising “*shifting the frequency of the tapped optical signal to thereby define a shifted optical signal*”, and that at least because of this, claim 11 is patentable over Ogusu in view of Ih.

Allowable subject matter

Applicants acknowledge with gratitude the indicated allowability of claims 15-18 if claims 15-18 were rewritten in independent form, and the allowance of claims 1-10 and 19-34. However, Applicants note that claims 15-18 depend directly or indirectly on claim 11, and respectfully submit that the above arguments concerning the patentability of claim 11 make it apparent that there is no need to convert claims 15-18 to independent format.

In view of the above, the Applicant submits that the application is now in condition for allowance and respectfully urges the Examiner to pass this case to issue.

The Commissioner is authorized to charge any additional fees that may be required or credit overpayment to deposit account no. 12-0415. In particular, if this response is not timely filed, the Commissioner is authorized to treat this response as including a petition to extend the time period pursuant to 37 CFR 1.136(a) requesting an extension of time of the number of months necessary to make this response timely filed and the petition fee due in connection therewith may be charged to deposit account no. 12-0415.

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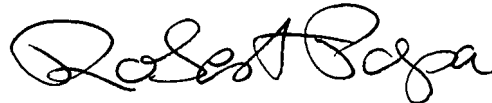
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Respectfully submitted,



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